عنوان مقاله:

HSE units' performance measurement: a hybrid model of decision making and data envelopment analysis approach

محل انتشار:

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خلاصه مقاله:

Health, safety and environment (HSE) performance measurement is one of the most important subjects in organizations. While it is commonplace to evaluate HSE performance on a personal manner which merely relies on the personal judgements, this research in contrary, aims to establish a systematic approach to address this problem. In other words, to effectively manage HSE units a proper mathematical analysis is adopted to measure the operational properties of HSE units. To do so, a three stage mathematical model is proposed in this paper (1): to identify the which factors to consider in both inputs and outputs of the HSE units (2): a grey relational analysis (GRA) - backed intuitionistic fuzzy multi criteria group decision making model (GFM) as a means to prioritize and select the most important and effective factors contributing to HSE units' performance and (3) a data envelopment analysis (DEA) approach to assess the performance of the HSE units accordingly. Finally, a case study is considered as a real-world application and model validation. The results showed that the 13 units were performing efficiently despite .the remaining 10 which demonstrated a poor operation

کلمات کلیدی:

performance assessment, data envelopment analysis, grey relational analysis, intuitionistic fuzzy multi criteria group decision making, HSE

لینک ثابت مقاله در پایگاه سیویلیکا: